Chapter 8

Safety, Security, and the Environment

Chapter 8 discusses general safety, security in maintenance areas, and environmental management. For assistance with specific questions you might have in these areas, contact your unit, installation, or major command safety, security, or environmental officer.

SECTION I – SAFETY

8-1. Section I discusses general safety programs, safety plans, responsibilities and duties of leaders and managers, accident follow-up procedures, and risk assessment and management procedures. Injuries and accidents reduce a unit's effectiveness, impact adversely on morale and discipline, and deplete operational capabilities. Under combat conditions and during continuous operations, fatigue and the stress of battle add to the causes of accidents.

SAFETY PROGRAM

8-2. The impact of a poor safety program or low safety awareness is a reduction in the maintenance structure's ability to provide quality maintenance support. An effective safety program is essential to the success of maintenance operations.

8-3. Safety must encompass all phases of support operations. Leaders and managers must ensure personnel are trained and aware of the proper handling of material, the safe use of hand tools, and the consistent application of safety practices. Personnel must be constantly vigilant to detect potential hazards, to apply control measures, to reduce or eliminate danger, and to report accidents and safety hazards promptly.

MAINTENANCE HAZARDS

8-4. Maintenance support operations involve numerous potential safety hazards. These hazards are present in operations involving—

- High voltage and amperage.
- High-pressure air.
- Hydraulics.
- Infrared radiation.
- Radioactivity.
- Radio frequency energy.
- Lasers.
- Mechanical devices.
- Solvents and chemicals.
- Explosives and flammables.

MAINTENANCE SAFETY

8-5. Personnel in maintenance units must be familiar with the contents of all pertinent publications. DA Pamphlet 25-30 lists regulations for safety policies and procedures. Technical bulletins and manuals provide information on the safe handling, use, storage, and maintenance requirements of tools, equipment, and hazardous materials. Optimum safety depends on personnel following correct safety procedures. Shortcuts or deviations can result in accidents.

RESPONSIBILITIES AND DUTIES

8-6. Safety is a command responsibility at all echelons. Commanding officers must take an active, aggressive leadership position on safety. They must appoint a unit safety officer and organize a safety committee of technical and supervisory personnel. The commander is also responsible for determining the cause of accidents and ensuring that corrective action is taken to prevent their recurrence. When existing safety rules need revision due to changes in equipment, operating conditions, or operating areas, it is the unit commander's responsibility to initiate action accommodating the changes.

LEADER LEVEL

8-7. Leaders and managers ensure that soldiers perform their duties safely. Keeping soldiers aware, ensuring they are careful, halting unsafe operations, planning, and preparing are the proactive measures leaders take to prevent accidents.

INDIVIDUAL LEVEL

8-8.   Safety regulations and guidelines are for everyone's protection and welfare.   Each individual is responsible for following all instructions and using all safeguards.   Cooperation among workers to develop and practice safe working habits is essential to prevent injuries to personnel and damage to material and facilities.   The key to the safety program is focusing the whole effort to prevent individuals from having accidents.   The prevention equation is simple:

Training + Equipment + Motivation + Leadership = SAFETY

Each element must be present in the proper amount, and the individual person normally knows if this is the case.

UNIT SAFETY PROGRAM

8-9.   An effective unit safety program is necessary for mission accomplishment.   A maintenance mission cannot be fully successful if death, injury, or damage to equipment or facilities occurs within it.   Leaders and managers must comply with regulatory requirements for their particular operations.   They ensure that the program conforms with AR 385-10 and DA Pamphlet 385-1.

UNIT SAFETY OFFICER

8-10.   The unit safety officer supervises, manages, coordinates activities related to unit safety, advises the commander on safety matters, including risk assessment and risk management, and suggests improvements to the unit safety program.

SUPERVISORS' RESPONSIBILITIES

8-11.   Supervisors must include safety in their plans and discussions of daily maintenance operations.   Supervisors must hold regular meetings in the work area.   These meetings serve—
- To review and critique performance, draw out ideas on improving the safety program, and publicize new or changed safety procedures.
- As a source of information and ideas that may have a wider use.

ACCIDENT FOLLOW-UP PROCEDURES

8-12.   Under the Army Safety Program, the supervisor must record each accident in accordance with DA Pamphlet 385-40.   Report accidents on DA Forms 285 or 285-AB-R.   Guidance for preparing these forms is in DA Pamphlet 385-40.   When an accident occurs, gather all essential information. The following facts should be obtained:
- Names of personnel injured, identification of equipment or facility damaged.
- Time and place the accident occurred.
- Severity and cost (in manpower and materiel) of the accident.
- Nature of the accident.

- How and why the accident occurred.

8-13. Leaders and managers must concentrate on the prevention of similar accidents. Corrective actions can include removing hazards, improving operations, redesigning or modifying equipment, and training personnel. Near-miss accidents should also be reported so that personnel can exercise preventive measures. Leaders and managers must monitor corrective action to ensure that it is being implemented.

EQUIPMENT OPERATOR SELECTION

8-14. The unit safety program must be closely associated with the selection of equipment operators and their training. Leaders and managers must strive for an effective equipment operator qualification program. AR 600-55 contains guidance about vehicle driver training selection, testing, and licensing.

SAFETY STANDING OPERATING PROCEDURES

8-15. The safety officer is responsible for the preparation of the unit safety SOP. Some of the elements the safety officer should include in the SOP are—

- Safety officer and safety council members responsibilities.
- Safety hazard and accident reporting procedures.
- Accident or injury investigation procedures.
- Fire fighting and first aid team responsibilities.
- Location and use of safety, first aid, and fire fighting equipment.
- Responsibilities of other key unit positions (e.g., maintenance control officer, shop foreman, platoon leaders and sergeants).

Other considerations include—

- Hazardous material (HAZMAT) and hazardous communications (HAZCOM) local written policy and programs.
- Safety award program and policy.
- Location, care, and use of personnel protective clothing and equipment (PPC&E).
- Initial and sustainment safety training for assigned personnel.
- Safety action plans outlining goals and objectives.
- Periodic safety meetings.

FIRE PREVENTION PROGRAM

8-16. Fire prevention is important to a maintenance shop. The unit fire prevention program focuses on training personnel in methods of fire prevention and how to react to a fire. See AR 420-90 for guidance on establishing a fire prevention program. Teach personnel to respond instinctively with the actions required to fight fires. The primary methods of fire prevention are—

- Keep the shop and vicinity free from oil and other organic materials (such as wood, paper, and fabrics).
- Inspect the area frequently to detect and remove hazards.

HAZARDOUS COMMUNICATIONS PROGRAM

8-17.   The HAZCOM program was created in response to federal law requiring each soldier to know and understand how to safely use, store, handle, and dispose of hazardous materials (primarily chemical). Table 8-1 lists the six steps required for maintaining a satisfactory HAZCOM program.

Table 8-1. HAZCOM Program Procedures

Step	Action
1	Ensure containers are properly labeled.
2	Identify hazardous materials and associated hazards to assigned personnel. By federal law, hazardous materials (chemicals) must be shipped with a materiel safety data sheet (MSDS).
3	Train personnel in the safe handling, use, storage, and disposal of each hazardous material.
4	Maintain a HAZMAT inventory.
5	Maintain a copy of the MSDS for each hazardous material on hand. Personnel should know MSDS's location and use.
6	Maintain a local written HAZCOM program, usually as an appendix to the safety SOP. The program explains how HAZCOM steps are accomplished and addresses any special procedures or requirements.

PERSONNEL SAFETY/PROTECTION PROGRAMS

8-18.   Numerous safety programs can be incorporated into day-to-day maintenance operations:

- Visual protection programs.
- Hearing protection programs.
- Respiratory protection programs.
- Laser/radiation protection programs.

VISION PROTECTION

8-19. There are three types of vision hazards:

- Physical impact.
- Chemical contact.
- Energy intensity.

Vision hazards can be eliminated by using the personnel protective clothing and equipment appropriate to the maintenance operation. TB MED 506 provides guidance on establishing a vision protection program.

HEARING CONSERVATION

8-20.   Noise is a hazard affecting the physical and mental abilities of personnel that must be considered in maintenance operations. See ARs 40-5 and 385-10 for guidance on hearing conservation.

RESPIRATORY PROTECTION

8-21.   Maintenance operations involving the use of chemicals or paints present a health hazard. Protection from these hazards should be a safety consideration in maintenance operations. See TB MED 502 for guidance.

LASER RADIATION PROTECTION

8-22. Laser radiation can be an extreme health hazard. Certain types of equipment used in maintenance operations emit a laser beam or radiation. These hazards are a safety consideration in maintenance operations. See TB MED 524 for guidance on establishing a laser/radiation protection program.

SAFETY PLANS

8-23. Below are some safety-related plans. They can either be separate from the safety SOP or appear as an annex.

FIRE PLAN

8-24. General guidance for fire plans is contained in TMs 5-315 and 9-1300-206. Each installation or activity storing or handling ammunition must have an effective fire plan designed to prevent and fight fires. The plan must—
- Include a description of emergency functions for each section, activity, or outside agency.
- Conform to the individual installation or activity.
- Specify personnel responsibilities.

8-25. The following will be incorporated into the fire plan:
- Procedures for fire reporting.
- Procedures for orderly evacuation of nonessential personnel.
- Procedures for warning personnel of the impending danger.
- Methods for extinguishing or controlling fires until fire fighting forces arrive.

A detailed map indicating types of ammunition stored, their location, and specific hazards associated with them will be prepared. Provide this document to the local MPs and fire department.

EMERGENCY EVACUATION PLAN

8-26. The emergency evacuation plan will—
- Provide policies and procedures for emergency evacuation during fires, natural disasters, or hazardous material spills.
- Be detailed enough for personnel to know what actions to take.
- Include warnings and cautions concerning special unit operations.

GENERAL SAFETY HAZARDS

8-27. General safety hazards include—
- Noise.
- Vehicles.
- Lifting devices.

- High pressure.
- Electricity.
- Radio frequency.
- Electro-explosive devices.
- Radioactive material.
- Armed weapons.
- Mechanical equipment.
- Welding.

NOISE

8-28. Noise is a hazard that can affect the physical and mental abilities of personnel. Constant, high noise levels, either in frequency or volume, have a degrading effect on personnel efficiency. Ear damage can result from loud, sharp noises, including high-frequency chatter from electronic test equipment.

VEHICLES

8-29. Personnel who operate vehicles will be selected and trained according to guidance in AR 600-55, FM 21-305, and FM 21-306. Drivers will conduct a daily safety examination of their vehicle. Speed limits will be established within the shop area (they are not governed by installation or area regulations). Personnel will be informed of driving rules—both military and civilian. A motor vehicle accident prevention program will be established in accordance with AR 385-55.

LIFTING DEVICES

8-30. Safety must be observed during lifting; the capacity of lifting devices should never be exceeded. Lifting devices (hoists, lifts, stands, booms) must be load-tested and properly marked with their maximum lift capacity. For detailed guidance on lifting devices, see TB 43-0142.

HIGH PRESSURE

8-31. High-pressure equipment maintenance support operations are categorized as either *air* or *hydraulic*. Equipment technical manuals contain general and specific safety rules that must be followed when working with and around such equipment. Personnel should be trained in the hazards and precautions to observe while using high-pressure equipment, as well as in how to use and maintain PPC&E.

ELECTRICITY

8-32. Electrical and electronic components are present in most equipment. When dealing with these items, personnel must be thoroughly familiar with the danger of electrical shock and with lifesaving techniques. Precautions and first aid techniques are usually listed in the front of maintenance technical manuals. Operators and maintainers should thoroughly familiarize themselves with these precautions and first aid techniques. For further guidance, see TB 385-4 and FM 21-11.

RADIO FREQUENCY

8-33. Radio frequency (including microwave and ultrasound energy) and energy policies and procedures are covered in the operator's manuals for specific equipment as well as in TB MED 523. Some equipment radiates high-intensity RF energy, which may be hazardous to personnel or to other equipment. Personnel should be familiar with the hazards and special procedures involved with such equipment. Minimum safe distances are normally referenced in the technical manuals for major equipment that emits high-intensity RF energy.

ELECTRO-EXPLOSIVE DEVICES

8-34. Some squibs and detonators can be inadvertently fired by RF energy from sources like radios or radar transmitters. EEDs are relatively safe (even in strong RF fields) when enclosed in metal containers. For more details on safety under these circumstances, refer to FM 9-6 or the system technical manual.

RADIOACTIVE MATERIAL

8-35. Minimize the probability of injury from radioactive material radiation by observing the following precautions:

- Check pertinent technical manuals for designation and location of radioactive material.
- *Never* touch damaged or broken radioactive tubes with bare hands. Use proper personal protective clothing and equipment.
- Include radiation safety in an SOP and in annual awareness training.
- Inventory all ionizing (radioactive) and nonionizing (radiating) materials and sources annually. (These materials and sources can be found throughout a maintenance unit—in the M8A1 chemical agent alarm, some missile system tubes, hand-held compasses, and lasers.)
- Check local reporting procedures with the installation radiation protection officer, who is normally assigned to the installation safety office.
- Check TB 43-0116 and TB 43-0197 to determine where radioactive materials are located in military equipment.
- Check AR 385-11 for guidance on ionizing radiation protection, transportation, and disposal. Coordinate with the radiation protection officer (RPO).
- Under AR 385-11, report radiological incidents and accidents to the RPO.
- Post warning signs.

ARMED WEAPONS

8-36. Recovery teams need to know how to disarm weapon systems. Maintenance support teams should know what actions or precautions are necessary if a hangfire or dud ordnance occurs. Applicable weapon systems technical manuals should provide guidance; however, when in doubt, request help from the using unit or EOD unit.

MECHANICAL EQUIPMENT

8-37. Radar, launchers, transporters, and other associated mechanical equipment present many hazards that can result in falls or entanglement with their moving parts. Specific precautions are normally listed in the front of maintenance technical manuals. Observance of the following general precautions will reduce the chances of an accident due to mechanical contact:

- Do *not* wear loose clothing or jewelry while working in the vicinity of equipment with moving components.
- Do *not* attempt to lift equipment that normally requires movement by more than one person.
- Place warning devices or signs around areas with mechanical hazards IAW guidance in AR 385-30.

WELDING

8-38. Welders must—

- Be familiar with processes and procedures covered in TC 9-237 and in technical manuals applicable to the equipment they are working with.
- Use prescribed personnel protective clothing and equipment and consider the safety of other personnel.
- Do not operate welding equipment in areas where sparks might result in fires or explosion or where personnel may suffer eye burns from the arc.

MAINTENANCE ACCIDENT PREVENTION

8-39. Maintenance accidents involving on-duty soldiers and civilians injured while installing, removing, or modifying equipment should be addressed when developing prevention programs. Accident prevention is vital to combat readiness. The following four factors are responsible for most accidents:

- Failure to follow procedures.
- Poor supervision.
- Lack of written procedures.
- Insufficient or no training.

MAINTENANCE FACILITY ACCIDENTS

8-40. Areas that account for accidents in maintenance facilities include—

- Operation of tools and equipment.
- Lifting (see DA Pamphlet 385-5).
- Hazardous actions.
- Lack of security and inadequate inspection of equipment.
- Lack of communication.
- Poor housekeeping.
- Carelessness.
- Failure to depressurize or disconnect components or equipment.
- Fatigue.

VEHICLE ACCIDENTS

8-41. Common causes of vehicle accidents in maintenance units include—

- Lack of driver training.
- Speeding.
- Fatigue.
- Following too closely.
- Improper ground guiding.
- Failure to wear seat belts.

MATERIAL SAFETY DATA SHEETS

8-42. Material safety data sheets are the key to the HAZCOM program. Each manufacturer of hazardous materials is required by federal law to produce an MSDS for that material. The unit can obtain MSDSs by—

- Removing them from bulk packages of hazardous materials.
- Requesting them from the manufacturer.
- Requesting them through normal safety channels.

SECTIONS FOR ALL PERSONNEL

8-43.   All personnel working with HAZMAT should know the following information, normally found in the first sections of the MSDS:

- Administrative information: for example, the HAZMAT's chemical name.
- General information: for example, the manufacturer's name, address, and emergency phone numbers; unit of issue; container quantity, container type; and net unit weight.
- Ingredients information: the chemicals that make up the material, its characteristics (appearance, odor, and boiling point) needed to identify a spill or leak. The boiling point is important when determining where to store hazardous materials.
- Fire and explosion hazard data: extinguishing materials, special fire fighting procedures, and unusual fire and explosive hazards.
- Reactivity: information on stability, conditions and materials to avoid, and hazardous decomposition products.

SECTIONS FOR SUPERVISORS

8-44. The remaining sections are used primarily by first-line supervisors to help them comply with their HAZCOM program responsibilities:

- Health hazards: signs and symptoms of exposure, medical conditions aggravated by exposure, and emergency and first aid procedures—items that first-line supervisors must inform personnel of.
- Precautions for safe handling and use: what to do if a material is released or spilled, what the waste disposal method is, proper handling and storage precautions, and any special precautions (most hazardous materials cannot be "simply" thrown away). Supervisors should use the information in this section to train their personnel.   Military waste disposal should be handled through normal logistics channels. The unit supply or the installation logistics office will advise on procedures for

waste disposal. The installation safety office can also help identify the appropriate authority. See AR 200-1 for guidance on environmental protection and enhancements.

- Control measures: type of personnel protective clothing and equipment required to safely use a hazardous material. Supervisors train personnel how to obtain, use, and maintain the equipment. The unit safety officer should be able to answer any question concerning approved safety PPC&E.
- Transportation data: physical and chemical characteristics, fire and explosion hazard data, and reactivity as needed to safely transport hazardous materials. Refer to this section when determining the category or hazard classification of the material being transported.

PERSONNEL PROTECTIVE CLOTHING AND EQUIPMENT

8-45. PPC&E should be used as appropriate to enhance safe operations. Safety equipment must be in good working condition and capable of serving the purpose for which it was designed. Persons who are issued PPC&E should understand how to put on, wear, and maintain it. Appropriate personal protective clothing and equipment should be selected based on the operation's hazards.

8-46. The most logical method of determining the need for PPC&E and the specific kind needed is a survey of all shop operations. AR 385-10 requires written documentation on the selection of personal protective clothing and equipment. Good maintenance of safety PPC&E prolongs its life as well as the user's in addition to ensuring proper functioning and use. For further information on the use and availability of protective clothing and equipment, see DA Pamphlet 385-3 and AR 385-10.

RISK ASSESSMENT AND RISK MANAGEMENT

8-47. Tough, realistic training conducted to standard is the cornerstone of Army warfighting skills. An intense training environment stresses both soldiers and equipment, which creates a high potential for accidents. Commanders must find ways to protect their soldiers and equipment from accidents during training. Risk assessment—

- Is a commonsense way of identifying hazards and the systemic effects they have on the mission.
- Is a tool leaders can use to make smart decisions. It allows them to execute more realistic training scenarios, not otherwise possible, through the use of control measures.
- When applied to day-to-day operations, helps reduce accidents by means of proactive prevention and increased awareness.

8-48. Commanders and staff can use the following information as a guide for managing risks as it applies to their organization and mission during peace and war. Conducting risk assessment and then applying risk management should become a fully integrated part of mission planning and execution. These management tools are a way to get the job done by identifying the

areas that present the highest risk and taking action to eliminate, reduce, or control the risk.

8-49. Risk assessment and management are ways of thinking through a mission to balance mission demands against risks. Leaders must learn to assess risks during actual training events and then apply the same techniques during combat actions. Risk management techniques and procedures are included in FM 100-14.

COMMANDER RESPONSIBILITIES

8-50. As in all other areas, commanders have overall responsibility for the effective management of risk. To meet this responsibility, commanders must—

- Strive for optimum performance from their personnel.
- Select from risk reduction options provided by the staff.
- Accept or reject residual risk, based on the benefit to be derived, from an informed position (informed in the sense of knowing what they are accepting or rejecting).
- Train and motivate leaders at all levels to use risk assessment and risk management concepts effectively.
- Ensure the concepts of risk assessment and risk management are understood and applied down to the lowest rank and grade.

SUPERVISOR RESPONSIBILITIES

8-51. Supervisors and managerial personnel assist the commander in assessing risks, developing risk reduction options, and integrating risk controls into plans and orders. Additional responsibilities include—

- Developing a total commitment to mission accomplishment and the welfare of subordinates.
- Consistently applying effective risk assessment and risk management concepts and methods to operations they lead.
- Reporting risk issues beyond their control or authority to the chain of command for resolution.

8-52.   Section II discusses physical security, security during tactical operations, information security, the continuous security program, and signal security (SIGSEC). Maintenance security areas discussed in this chapter are physically defined areas where access is subject to restrictions and controls. To remain as low key as possible, security areas will not normally be posted. Responsibility for the security of a unit rests with the commander. At all levels, commanders must use every means at their disposal to safeguard classified material.

PHYSICAL SECURITY

8-53. Physical security protects operational information and activities using security forces, barriers, dispersal, concealment, and camouflage. It denies the enemy access to facilities, areas, equipment, materials, and personnel.

FIXED FACILITIES

8-54. Normally, missile and electronics systems maintenance support shops will have a perimeter fence around the work area and any area where classified, sensitive, or high-cost items are repaired or stored. Other structural barriers, such as walls, bars, and roadblocks, should be constructed to provide protection equal to a chain link fence. For standards concerning the types and design of perimeter barriers, see FM 19-30.

8-55. To operate efficiently and safely, the number of perimeter entrances on the installation must be limited. When entrances are not guarded, they must be securely locked. A key control system must be in place for perimeter entrances, facility doors, and locked maintenance shops. See AR 190-11 for guidance.

OPERATIONAL SUPPORT LOCATIONS

8-56.   Consider the following factors when planning, designing, or maintaining physical security in operational support locations (see AR 380-5 for detailed standards and requirements for physically safeguarding classified materials):

- The area used must meet present requirements and anticipated needs.
- Classified material in open view must be covered.
- Perimeter entrances should be accessible, within view of the maintenance control section.
- Perimeter entrances and other sensitive locations must be well lighted.
- Control signs should limit personnel to only those necessary, to control authorized entry and prevent unauthorized or accidental entry. Signs must comply with AR 420-70.
- An unattended barrier entrance must have an effective system for alerting shop personnel to persons desiring entry.

- Enough storage containers for classified or sensitive material should be available.
- A classified document log must be maintained.
- Frequent, unannounced security inspections should be conducted.
- A detailed unit SOP on security should be developed.

SECURITY DURING TACTICAL OPERATIONS

8-57. The commander uses principles discussed in the references cited in this chapter to conduct maintenance support and at the same time provide for unit security. During tactical operations, action will be taken to prevent the enemy from obtaining information relating to missile and electronics maintenance support operations. Throughout the planning, preparation, and execution phases of maintenance operations, every effort must be made to maintain security. Some practical physical security techniques during tactical operations are—

- Use security elements to the front, rear, and, when required, on flanks of convoys.
- Use listening and observation posts in bivouac areas.
- Identify likely avenues of approach and cover them with fields of fire.
- Employ obstacles to impede the enemy.
- Use challenge and passwords.
- Use early warning devices.

360° PERIMETER

8-58. Organizing units into a defensive 360° perimeter is no longer viable for the modern battlefield. This method is manpower-intensive and, at best, provides no more than a thin line of protection. Once penetrated, it is very difficult to maintain cohesion and nearly impossible to re-form into a coherent defense.

POINT DEFENSE

8-59. Positioning unit equipment and sections is the single most important factor in a unit's ability to provide adequate security while conducting maintenance for supported units. The point defense, with the fullest possible use of unit dispersion, has evolved as the most practical defense method. The concept is to disperse the unit and to emplace it by functional area. Only small areas are actively defended.

8-60. A heavily armed reactionary force is used to defeat an enemy attack. Because of their limited firepower, support units fight only when attacked. A support unit deployed in this manner has an advantage; the requirement to man a large perimeter no longer exists.

REACTIONARY FORCE TACTICS

8-61. Reactionary force operations are the key to a successful point defense. Reactionary force tactics in a point defense are easier to execute than in a perimeter defense. Although dispersion causes problems with command and control, it pays dividends in mission accomplishment and survival. Because

there is no perimeter, enemy forces will penetrate the unit area without meeting resistance. They will be forced to attack smaller, more densely armed strong points instead of penetrating a lightly held perimeter. If used properly, minefields (claymores) will greatly help channel the enemy into strong points, presenting the reactionary force with the opportunity to defeat or destroy it.

8-62. The reactionary force must be well trained, confident, and aggressive. It must have a well defined chain of command and be organized to accomplish its mission. All sections of the unit must know what the reactionary force is going to do before it is deployed.

OBSERVATION POSTS

8-63. Commanders must place observation posts (OPs) and listening posts (LPs) on likely avenues of approach. By coordinating with adjacent units, commanders can implement an integrated warning plan that will lessen the impact on any one unit. Unattended ground sensors will further enhance OP and LP effectiveness. In areas where the populace is friendly, local law enforcement and government agencies can be valuable sources of information. Intelligence information can be evaluated for unit security.

INFORMATION SECURITY

8-64. Information security is defined as the control of written, verbal, and graphic information to prevent disclosure of operations. Information security is mandatory in a maintenance support shop. The originators of information that requires protection in the interests of national defense are responsible for its proper classification.

TYPES OF CLASSIFIED MATERIAL

8-65. Materiel condition status and other indicators of system status are often classified; they must be handled in accordance with security regulations and established policy. Maps and other indicators of the physical location of units, assets, and quantities of material are sometimes classified. Information that reveals performance characteristics, test data, vulnerability, countermeasures, and signature characteristics of missile systems is classified. See AR 380-5 for guidance on information security classification.

8-66. Missile and electronics systems and TMDE material (end-items or components of end-items) are sometimes classified. This makes it necessary to give special consideration to them during transportation, storage, and handling. Procedures must be developed and enforced for the control of classified materials and publications used daily by maintenance and supply personnel. See TB 9-380-101-series for classification guidance on missile materials.

CLASSIFICATION GUIDELINES

8-67. Three types of sources contain the bases for determining the appropriate classification of a document or item:

- AR 380-5 provides information security guidance.

- Classification guides prepared by heads of DA agencies and commanding generals of major Army commands (MACOMs).
- TB 9-380-101-series and other technical publications that establish criteria or precedents for the classification of supplies, equipment, and printed matter.

CONTINUOUS SECURITY PROGRAM

8-68.   Each support unit should have frequently scheduled briefings to contact each person in the unit. Such presentations are most effective when they are brief and relatively informal. Security presentations should—

- Link with situations that personnel are exposed to.
- Conform to the academic background and education of the audience.
- Be delivered convincingly by a knowledgeable person.

8-69.   Assigned personnel transferring out of the unit or those who will be absent for longer than 30 days will be debriefed. Procedures should be in accordance with local policy and security regulations.

SIGNAL SECURITY

8-70.   The purpose of SIGSEC is to aid mission accomplishment and to withhold intelligence information from the enemy. Commanders and their staffs must consider and apply SIGSEC in their planning and operations. SIGSEC procedures must be flexible and realistic. This involves signal operations security techniques to prevent the disclosure of operational information.

8-71. Some practical techniques for maintenance units are—

- Frequency classification. Operational radio frequency assignments should be classified confidential as a minimum.
- Net discipline. Correct communication procedures should be used, such as call signs, short radio transmissions, and signal silence.
- Authentication. Authentication protects a communications network against fraudulent transmissions. The signal operation instructions (SOI) should specify the authentication system and when to authenticate a transmission. See AR 380-40 for guidance.
- Call signs. Operators must not use personnel call signs, names, and other personnel identifiers when transmitting.
- Official messages. Military communications must be limited to official messages.
- Service messages. Service and procedural messages should be prepared and transmitted according to procedures contained in FM 24-17.
- Emergency instructions. Operators and supervisors must know and have on hand emergency operating instructions. Compromised SIGSEC procedures must be superseded as soon as possible.

SECTION III – ENVIRONMENTAL MANAGEMENT

8-72. Proper environmental management and coordination at the installation are necessary to comply with federal, state, local, and host nation regulations. This section covers the laws, regulations, policies, and programs the Army follows to comply with these regulations. Environmental management is the Army's means of conserving, protecting, and restoring natural and cultural resources while accomplishing the military mission. Proper environmental management benefits the overall mission by improving public relations and preventing delays and operational shutdowns. It also provides everyone with a cleaner, healthier, safer environment to live in.

DEPARTMENT OF DEFENSE POLICY

8-73. The Department of Defense goal is to lead the nation in protecting the environment and conserving natural resources for present and future generations. The Army has established an environmental strategy to support DOD's goal. This strategy is an integral part of the Army's vision into the twenty-first century.

8-74. The Army's environmental strategy can be illustrated in the model of a building with a foundation and pillars supporting the overall vision of environmental stewardship. The model is on a bedrock of shared national values that support the foundation. Across the foundation is the Army's tradition of leadership, which integrates the foundation blocks and provides a sound footing for the four pillars:

- Compliance: to attain and sustain compliance at Army installations.
- Restoration: to clean up contamination as quickly as possible.
- Prevention: to prevent or reduce pollution at its source to lessen future problems.
- Conservation: to conserve and preserve the natural and cultural resources under the Army's control for future generations.

ARMY POLICY

8-75. The Army policy is an integral part of the mission; it has been endorsed by the Army Chief of Staff and the Secretary of the Army. Protection of precious environmental resources is the duty of every member of the Army. Charged with the stewardship of over 20 million acres of land, the Army must never lose sight of its responsibility to preserve and protect resources.

PRINCIPLES

8-76. The guiding principle of the policy is that work and actions must be environmentally sustainable, meeting current needs without compromising the integrity of the environment for future generations. As a basis to its environmental management policy, the Army will—

- Integrate environmental consideration into all activities.
- Allocate resources and training to protect the environment.

- Ensure that installation operations are environmentally acceptable and enhance the life of military and civilian members.
- Minimize generation of waste.
- Clean up sites of past contamination.

IMPACT

8-77. Environmental issues are a major concern of the Army. With emerging laws and regulations, these issues will continue to have a growing impact on Army operations. Violations of federal, state, or local environmental laws can result in both civil and criminal penalties.

KEY LAWS AND REGULATIONS

8-78. The four primary sources of environmental law that influence Army actions are federal, state, local, and host nation. The Army will comply with laws and regulations as they pertain to individual localities and installations. Since state and local environmental laws differ, personnel need to understand that what is environmentally permissible on one installation may not be permissible on another. Therefore, check with appropriate installation personnel to determine how state and local laws apply.

FEDERAL

8-79. Federal laws provide states and federal agencies with a legal framework in which to operate. These laws include acts and executive orders. For example, the Federal Facilities Compliance Act (FFCA) allows federal, state, and local regulatory agencies to impose civil fines on federal agencies for violations of the Resource Conservation and Recovery Act (RCRA). In many federal environmental laws Congress has authorized the Environmental Protection Agency (EPA) to delegate primary enforcement responsibility to the states. Such delegated programs must be at least as stringent as the applicable federal laws and regulations; however, states may impose stricter standards in their laws or regulations. Individuals should receive site-specific training regarding their potential liability under applicable federal and state laws and regulations.

STATE

8-80. Each state has its own regulatory organization charged with developing and implementing environmental regulations. Many state regulations parallel federal environmental regulations. Some are more stringent.

LOCAL

8-81. Local laws and ordinances address the concerns of the local communities. They are based on federal and state laws; however, each municipality or community may place more stringent restrictions on certain activities (for example, noise restrictions during certain hours of the day).

HOST NATION

8-82. The Army is committed to pursuing an active role in addressing environmental quality issues with neighboring communities and assuring that consideration of the environment is an integral part of all decisions. When an installation or unit is located OCONUS in an area where an HN has minimal or no environmental laws and is not subject to federal environmental regulations decreed by the Environmental Protection Agency (EPA), the unit or installation will comply with ARs 200-1 and 200-2. In countries where there are HN laws, the final governing standard (FGS) will be used according to the executive agent of that country.

ENVIRONMENTAL COMPLIANCE ACHIEVEMENT PROGRAM

8-83. ECAP is an umbrella program that integrates five basic areas needed to achieve and maintain environmental compliance:

- Training.
- Planning and programming.
- Resourcing.
- Assessing.
- Correcting deficiencies.

This program was implemented to assist Army personnel in achieving and maintaining compliance with applicable federal, state, local, and host nation environmental regulations and to foster a sense of stewardship.

8-84. ECAP is applicable to worldwide Army installations. It covers Army environmental programs that focus on ongoing and future operations (as compared to the Defense Environmental Restoration Program, which focuses on past Army operations). OCONUS commanders determine the scope for ECAP within their commands. They often implement procedures to ensure compliance with applicable host nation, Status of Forces Agreement (SOFA), and FGS requirements, as well as the requirements of ARs 200-1 and 200-2.

COMPLIANCE

8-85. The Army is committed to setting the standard for DOD and other federal agencies as the leader in compliance with environmental laws, prevention of environmental damage, and the protection and stewardship of natural resources. The Army is making a concerted effort to integrate environmental considerations into all Army activities. It is the responsibility of all military and civilian Army personnel to ensure that the DOD and national standards for environmental challenges in the future are met.

8-86. The Army uses compliance assessment as a vehicle for attaining Army environmental program goals and improving program visibility. If the unit deals with hazardous waste (HW) and HAZMAT, internal inspections are required. HW coordinators for larger units can request a copy of the ECAP protocol to assist in developing inspections and record-keeping plans. However, the installation HW management plan should contain information to develop an inspection plan for HW generation points and accumulation sites at the unit level. TC 5-400 provides a self-assessment checklist.

POINTS OF CONTACT

8-87. Contact the environmental office for an ECAP protocol to conduct an internal or self-compliance assessment. The Army Environmental Hotline (CONUS, 1-800-USA-3845; OCONUS, 1-410-671-1699; DSN 584-1699) provides information on environmental—

- Policy and guidance.
- Points of contact.
- References.
- Stewardship.
- Federal and state laws and regulations.

UNIT-LEVEL ENVIRONMENTAL PROGRAMS

8-88. Leadership direction and support are needed to implement improvements in all areas of Army activities and operations to achieve environmental stewardship. Army leaders will ensure their effective implementation.

LEADER RESPONSIBILITIES

8-89. Unit leaders must ensure that their unit has an active and strong environmental program. They must understand the laws and know what actions to take. Leaders bring focus, direction, and commitment to environmental protection. They demonstrate commitment by—

- Resourcing the effort.
- Organizing for success.
- Training unit personnel.
- Ensuring compliance with all requirements.
- Role-modeling the unit's environmental ethic.

8-90. Environmental awareness must be part of command policy; it is enforced through the chain of command. Successes in the unit-level environmental program, the installation environmental program, and the installation environmental office increase communication at all levels. Unit leaders follows the steps in Table 8-2.

Table 8-2. Unit Environmental Program

Step	Action
1	Begin with the basics to ensure unit personnel have had environmental awareness training.
2	Designate an environmental compliance officer/HW coordinator who is properly trained and qualified.
3	Direct the environmental compliance officer to interface with appropriate environmental personnel and ensure that the unit is in compliance with environmental laws and regulations.
4	Meet with key battalion operations and training officer (S3), supply officer (S4), and installation personnel who deal with environmental issues.

Step	Action
5	Determine the requirements concerning ECAP inspections that may effect the unit and identify unit environmental problem areas and ways to avoid them.
6	Ensure the unit has a well written SOP that addresses environmental issues and procedures that apply to the unit and coordinate environmental requirements with appropriate installation and chain-of-command personnel.

NOTE

At most installations, environmental support personnel are available to help unit leaders understand the various laws and regulations. These personnel include the chain of command and key installation personnel (Directorate of Public Works [DPW] environmental officer, Staff Judge Advocate [SJA] attorneys, and range officers).

TYPES OF UNIT ENVIRONMENTAL PROGRAMS

8-91. The environmental programs that the unit should support (installation) and establish (unit) are—
- Hazardous materials program.
- Hazardous waste program.
- Hazardous communications program.
- Pollution prevention and hazardous waste minimization recycling program.
- Spill prevention and response plan program.

HAZARDOUS MATERIALS PROGRAM

8-92. The hazardous materials program's objective is to minimize health hazards and environmental damage due to use/misuse of hazardous material. Because of its quantity, concentration, or physical, chemical, or infectious characteristics, a hazardous material may—
- Cause, or significantly contribute to, an increase in mortality or in serious, irreversible, or incapacitating but reversible illness.
- Pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

MANAGEMENT RESPONSIBILITIES

8-93. To ensure the best management practices for all hazardous materials, managers—
- Maintain liaison with key chain of command and installation personnel.

- Appoint an environmental compliance officer.
- Comply with all applicable hazardous waste regulations.
- Order and use only the hazardous materials required (*never* stockpile HAZMAT).
- Use nonhazardous substitutes to the maximum extent practicable.
- Conserve resources through recovery, recycling, and reuse.
- Coordinate requirements with appropriate training.
- Comply with chain-of-command and installation HAZMAT requirements.
- Establish procedures—
  - To identify and correct management deficiencies.
  - For hazardous waste/materials fires or explosions.
  - For hazardous waste/materials spills or leaks.
  - For emergency first aid.

HAZARDOUS WASTE ACCUMULATION

8-94. One of the hazardous waste program's goals is monitoring the presence of hazardous waste that is a cause of concern to installation personnel or nearby residential populations. Hazardous substances are an unavoidable fact of Army activities, which ultimately result in some waste generation. Proper handling and disposal of these wastes will minimize danger and ensure the safety of people and the environment. References applicable to hazardous waste programs include—

- AR 200-1.
- AR 420-49.
- TM 38-410.

Handling and Disposal

8-95. If the unit deals with hazardous waste, it should—

- Comply with HW regulations.
- Ensure that wastes do not accumulate beyond quantity and time limits.
- Maintain proper HW records and submit required report.
- Employ waste-minimization techniques.

Transportation

8-96.   Leaders should ensure compliance with on-post HW transportation requirements. They can contact the installation defense reutilization and marketing office (DRMO) or directorate of logistics (DOL) for details. They also ensure compliance with off-post HW transportation requirements. Public road use increases transportation requirements. The installation DOL facilities management officer (FMO) grants movement approval. Drivers transporting HW must be qualified. An HW training program should be established to ensure personnel are trained properly. Most installations use a hazardous waste train-the-trainer program.

HAZARDOUS COMMUNICATIONS PROGRAM

8-97.   The HAZCOM program helps leaders determine which hazardous chemicals are present in the unit. It protects soldiers by ensuring they are aware of chemical hazards, and it ensures proper storage and use of chemicals. References applicable to HAZCOM programs include—

- AR 40-5.
- AR 385-10.
- AR 700-141.

8-98. The installation safety officer is the POC for most HAZCOM matters, including the MSDS program and the HAZCOM training program. The safety officer—

- Maintains an up-to-date list of HAZMAT/HW in the area.
- Ensures that hazardous substances are properly stored.
- Ensures that containers of hazardous substances are properly labeled.
- Maintains an MSDS for every HAZMAT in the unit.
- Ensures that personnel are properly trained and that they use proper procedures when working with hazardous substances.

HAZARDOUS WASTE MINIMIZATION PROGRAM

8-99.   The pollution prevention and hazardous waste minimization (HAZMIN) program complements the HAZMAT, HW, and HAZCOM programs.   HAZMIN is reduction in the amount and toxicity of HW. Pollution prevention is reduction in the amount of waste, whether it is hazardous or not (for example, recycling or reusing to reduce the amount of trash that goes into landfills). Applicable references for HAZMIN programs include AR 200-1.

INVENTORY CONTROL

8-100. Leaders ensure their units employ inventory control of hazardous materials. Hazardous materials should *not* be stockpiled in the unit. If a hazardous material has an expired shelf life, it can cost much more to dispose of the item than it did to obtain it. Any hazardous material with an expired shelf life must be handled like hazardous waste.

REDUCING HAZARDOUS WASTE

8-101.   Nonhazardous product substitution is an easy way to reduce hazardous waste generation. Unit personnel should review the HAZMAT inventory in their areas to check if nonhazardous or less hazardous substitutes are available. Changes in the work process can reduce the amount of HW generated; for example—

- Using a soap-and-hot-water parts cleaner instead of a vapor degreaser.
- Changing painting operations to reduce overspray and pollution. However, any sprayed water still needs to be treated as HW, since paint particles can become waste material.

RECYCLING PROGRAM

8-102. A recycling program promotes increased use of product separation, substituting materials and changing procedures to avoid using hazardous substances (source reduction) and recycling to reduce the volume of solid waste. Most installations have a recycling program. Personnel should support it by ensuring that all recyclable materials are being recycled. These materials include (check with the installation environmental office to verify the material is recyclable)—

- Plastics.
- Oil.
- Solvents.
- Glass.
- Aluminum cans.
- Computer printouts.
- Corrugated cardboard.
- Newspaper.
- High-grade white paper.
- Brass.

SPILL PREVENTION AND RESPONSE PLAN

8-103. The Spill Prevention and Response Plan supports the Clean Water Act's requirement to prevent spills of oil and hazardous substances and to provide a prompt response to contain and clean them up. The discharge of oil or hazardous substances from installations, vehicles, aircraft, and watercraft into the environment without a permit is prohibited. Exceptions will be made in cases of extreme emergency where the discharge is considered essential to protect human life. A discharge may also be authorized by a permit or by the installation on-scene coordinator (IOSC) during a spill-incident response.

Prevention

8-104. Every reasonable precaution should be taken to prevent oil and hazardous substance spills. Unit leaders—

- Ensure that facilities are provided to store, handle, or use oils and hazardous substances and that proper safety and security measures are implemented.
- Appoint a spill coordinator and members of the unit spill response team (the designation should be in writing).
- Maintain an up-to-date spill-response plan (the plan is an installation requirement).
- Conduct periodic spill-response drills.
- Ensure that sufficient equipment and supplies (absorbent materials) for spill response are on hand, pre-positioned in the unit.
- Locate all drains, drainage ditches, streams, and ponds; plan how to prevent a spill from reaching them.

Response

8-105. Each unit needs the following:

- A copy of the Installation Spill Contingency Plan (ISCP), which is available from the environmental office.
- A current list of essential agency names and phone numbers, including—
  - Fire department.
  - Safety office.

- ♦ Provost marshal.
- ♦ Preventive medicine.
- ♦ Environmental office.
- An up-to-date inventory of all HAZMAT/HW (a copy should be provided to the post fire department).
- Spill prevention equipment (brooms, absorbent materials, hand tools, barrel plugs, personnel protection equipment).
- **A s**pill-response plan that covers—
  - ♦ General issues.
  - ♦ Oil.
  - ♦ Hazardous substances.
  - ♦ Extremely hazardous substances.

8-106. Before attempting to clean up a spill, contact the installation spill response team, safety office, preventive medicine office, and environmental office to determine the proper PPC&E. Ask when to attempt the spill cleanup and when to leave the area. With the approval of the installation spill response team, ensure that small spills are properly cleaned up and collected.

8-107. Ensure that oil, fuel, or other hazardous pollutant spills are reported to the environmental office and higher headquarters. The battalion S4 and the post environmental office can provide information on reportable spill quantities. Contaminated soil needs to be properly disposed of. Contact the installation environmental office for additional information.

TRAINING

8-108. Training is the key to accomplishing the mission. Military personnel need environmental awareness training, which leads to safer performance and establishes an environmental ethic among soldiers. Training should occur as early as possible and should be reinforced as personnel progress professionally.

8-109. In addition to general environmental awareness training, specialized training is required based on the duties and responsibilities of the individuals. Some of this specialized environmental training and much of the awareness training can be addressed most appropriately through integrated instruction or supplemental material as part of ongoing unit training programs for technical skills and leadership.

SERVICE SCHOOLS

8-110. Service schools provide environmental awareness training for soldiers as they attend professional development courses. This training provides general knowledge of human health issues, the environment, environmental ethics, and the impact of their decisions and actions on the environment. Environmental awareness training will be taught at all levels from initial-entry training to the precommand course. The US Army Engineer Center is proponent for the training.

NONRESIDENT TRAINING

8-111. The Army Correspondence Course Program (ACCP) provides a variety of environmental subcourses. Students in the ACCP Program satisfy their particular training needs themselves. Procedures for enrollment are in DA Pamphlet 351-20. Subjects include—

- Environmental Protection.
- Defense Hazardous Materials and Waste Handling.
- Hazardous Materials Handling.
- Hazardous Materials Citizen Orientation.

Environmental awareness subcourses include—

- EN 5700, Junior Enlisted Environmental Awareness Training.
- EN 5702, Small Unit Leader Environmental Awareness Training.
- EN 5704, Senior Leader Environmental Awareness Training.

UNIT TRAINING

8-112. The US Army Engineer School is proponent for the unit training program for each company-size unit. The training program assists commanders to better prepare unit personnel to face environmental issues and reduce environmental constraints that affect the mission. The program stresses before-, during-. and after-operations checks. Commanders must establish a training program to ensure that personnel are fully aware of their responsibilities.

SPECIFIC TRAINING

8-113. Many installations (including OCONUS ones) currently provide a training program for specific required training (for example, for unit environmental compliance officers and spill coordinators). Other training to support the needs of commanders is currently available. Contact each training proponent for a list of courses and training programs.

PROGRAM ASSESSMENT

8-114. A unit's environmental compliance status can be determined through formal inspection by a regulatory agency or through self-inspection using ECAP checklists as a guide. Non-Army regulatory agencies have the legal right and responsibility to inspect units and individual facilities to ensure compliance.

8-115. Once a year, EPA inspectors conduct spot inspections of installations. Local and state inspectors also conduct frequent inspections. Regulatory inspections often concentrate on a particular area like HW management. Inspection frequency guidelines have been established under the EPA Federal Facility Compliance Strategy. Inspections in other programs may occur at different frequencies. Installations and units with specific major problems can except more frequent follow-up inspections.

8-116. Often the first indication that federal, state, or other inspectors are on post is when they drop into the installation environmental coordinator's office or the provost marshal's office, asking for directions to a site on the

installation. The best policy is to be in compliance with all regulations and to be prepared for inspection at all times.